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## MANUFACTURES.

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No. I.

### IMPROVED ROLL FOR WEAVING VELVET.

*The sum of FIVE POUNDS was presented to Mr. W. M'GRATH, 10 Mape Street, Waterloo Town, Bethnal Green, for his Improved Roll for Weaving Velvet; a Model of which has been placed in the Society's Repository.*

10 Mape Street, Bethnal Green,  
October 22d, 1839.

SIR,

I BEG to inform you that I have invented an improved roll for the weaving of velvet, which will obviate the necessity of rocateeing at every turn (which, especially with the wide velvets, it is very difficult to do with certainty), and will produce work free from pin-marks.

By laying my invention before the Society of Arts, you will oblige, Sir,

Yours &c. &c.

W. A. GRAHAM, Esq.  
Secretary, &c. &c.

WILLIAM M'GRATH.

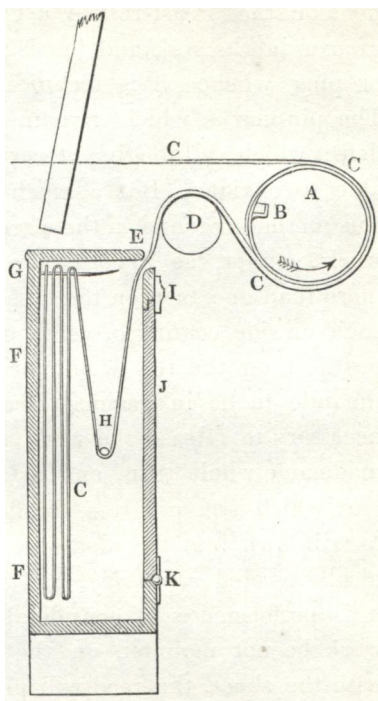
In the ordinary process of weaving velvet, the work is held on the breast-roll by a flat wooden rod, let into a groove in the roll, and furnished with short wire-points or pins, whence it is technically termed the pin-stick. The pin-marks which remain in the work constitute a defect which, although not very conspicuous, it is desirable to obviate. But a much greater inconvenience of this method is found in the circumstance, that the finished work cannot, as in ordinary silk-weaving, be wound more than one turn on the breast-roll, as the pressure of each outside coating of velvet on the face of that underneath it on the roll would produce shades, by causing the pile to lie in various directions. It is, therefore, necessary to release the work from the roll after it has made one whole turn, and to mount it again near that part which is in progress, the finished end being suffered to fall down into the plush-box. This operation is technically termed *rocateeing*, and the exactness with which it is performed is of considerable importance; for if the work be not mounted on the roll in a line coinciding with the shoot, the reed will press unevenly on different parts, and will produce inequality of texture. This was, however, hardly felt as a difficulty by skilful workmen, until the late introduction of wide velvets; every step towards the improvement of which the Society have acknowledged by their rewards.

Mr. M'Grath proposes the following arrangement as a remedy for the above-named inconveniences:—

Instead of using the pin-stick to hold the successive portions of the velvet to the breast-roll, he uses two rolls, and covers them with materials that will adhere to the velvet with sufficient tenacity to carry it forwards into a proper receptacle, where each successive yard is hung up.

The adjoining figure is a section of the apparatus : —

A, the breast-roll, is covered with glass-paper, the first end of which is fixed in the groove at B, and then wrapped a little more than once round the roll in the direction of the arrow, so as to meet the pull of the warp; its end is then tacked down. c c the velvet, the back of which, in passing about three-quarters round the roll A, adheres to the glass-paper; from thence its face passes over the second roller D, which is covered with velvet, having the pile outwards;



the adhesion of these two faces ensures a clear passage of the velvet free from injury, and the adhesion of the glass-paper on the breast-roll, with the weight of the rod H, becomes amply sufficient to pull the warp. As the velvet passes the roller D, it enters by a gap E into the box F F, where its first end is hung on two wires G G; a small roller H is then laid on it, which by its weight pulls in the velvet continuously till one yard has entered. The buttons I are then turned, and the door J let down on its hinges K, to give access to the velvet, for the purpose of hanging the first yard on the wires G G; the rod H is then taken from it and laid on

the second portion, which, in like manner, it draws in, and this is repeated at the end of every yard until the velvet is finished; the flap J being kept shut preserves the velvet from dust or accident.

By coating the breast-roll in this manner with glass-paper, Mr. M'Grath was able to try the experiment without spoiling the roller for other purposes; but he is so well satisfied with his success, that he intends having a new roll sized and covered direct with sifted glass, instead of using glass-paper.

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No. II.

LOOM FOR WEAVING WICKER CHAIR-  
BOTTOMS.

*The SILVER ISIS MEDAL and Six Guineas were presented to Messrs. D. and H. POTTS, 5 Selby Street West, Waterloo Town, Bethnal Green, and 1 Samuel Street, Booth Street, Spitalfields, for their Loom for Weaving Wicker Chair-bottoms; a Model of which has been placed in the Society's Repository.*

SIR,

May 12th, 1840.

BEING desirous of laying before the Society of Arts an improved method of manufacturing wicker-seats for chairs by the weaving process, which enables us to produce every variety of pattern which taste and elegance can suggest with the utmost facility, will you have the kindness to